

12. (New) A skeleton type brushless motor  
comprising:

a rotor having a rotational shaft in a center thereof;

a first stator core including a first semicircular  
inner profile defined between first and second ends of said  
first stator core;

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a second stator core including a second semicircular  
inner profile defined between first and second ends of said  
second stator core, wherein said second stator core is  
connected to said first stator core such that said second  
semicircular inner profile faces to said first semicircular  
inner profile and a first gap exist between said first end  
of said first stator core and said first end of said second  
stator core, and a second gap exists between said second  
end of said first stator core and said second end of said  
second stator core;

a coil winding unit connected to at least one of said  
first and second stator cores, and

a coil wound on said coil winding unit, wherein an  
outer profile of said first stator core protrudes outwardly  
away from said rotational shaft as said outer profile  
progresses toward said first end of said first stator.

13. (New) The motor of claim 12, wherein an outer profile of the second stator core protrudes outwardly away from said rotational shaft as said outer profile progresses toward said first end of said second stator.

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C. 1.*  
14. (New) The motor of claim 13, wherein an outer profile of the first stator core protrudes outwardly away from said rotational shaft as said outer profile progresses toward said second end of said first stator, and wherein an outer profile of the second stator core protrudes outwardly away from said rotational shaft as said outer profile progresses toward said second end of said second stator.

15. (New) The motor of claim 12, further comprising:  
a first detent part formed in said first semicircular inner profile adjacent to said first end of said first stator core, said first detent part being characterized by a displacement of said inner profile outwardly away from said rotational shaft.

16. (New) The motor of claim 15, further comprising:

a second detent part formed in said second semicircular inner profile adjacent to said second end of said second stator core, said second detent part being characterized by a displacement of said inner profile outwardly away from said rotational shaft.

17. (New) The motor of claim 16, wherein said first and second detent parts are symmetrically arranged around a centerline of said rotational shaft.

As 18. (New) The motor of claim 12, wherein said first and second gaps are symmetrically arranged around a centerline of said rotational shaft.

19. (New) The motor of claim 12, wherein said first stator core is electrically separated from said second stator core at said first gap and said second gap.

20. (New) The motor of claim 19, wherein said first stator core is electrically connected to said second stator core at a point remote from said first and second gaps.

21. (New) The motor of claim 12, wherein said rotor includes a permanent magnet encircling said shaft.

22. (New) The motor of claim 12, wherein a distance of said first gap is equal to a distance of said second gap.

23. (New) The motor of claim 12, wherein a distance of said first gap is approximately 0.3 to 1 mm.

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24. (New) The motor of claim 23, wherein a distance of said second gap is approximately 0.3 to 1 mm.

25. (New) The motor of claim 12, further comprising:  
a sensor for sensing a rotational position of said rotor, wherein said sensor is located approximately 10 to 20 degrees from one of said first and second gaps and upstream from said one of said first and second gaps, relative to a rotational direction of said rotor.

26. (New) The motor of claim 12, further comprising:  
a first shaft support part supporting one end of said rotational shaft;

a first separation member located between said first shaft support part and said first and second stator cores;

a second shaft support part supporting another end of said rotational shaft; and

a second separation member located between said second shaft support part and said first and second stator cores.

27. (New) The motor of claim 26, further comprising:

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a first cover extending from said first separation member toward said first and second stator cores and covering said first gap; and

a second cover extending from said second separation member toward said first and second stator cores and covering said second gap.

28. (New) The motor of claim 12, further comprising:

a drive control unit connected to said coil winding, wherein said drive control unit includes an AC capacitor for connection to utility power for decreasing a voltage of the utility power, and a rectification circuit for rectifying the utility power.

29. (New) A skeleton type brushless motor comprising:

a rotor having a rotational shaft in a center thereof;  
and

a first stator core having a first rotor receiving  
part formed therein for receiving the rotor;

a second stator core having a second rotor receiving  
part formed therein for receiving the rotor;

first and second gaps formed between the first and  
second stator cores, respectively;

a coil winding unit connected to the first and second  
stator cores; and

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a coil wound on the coil winding unit;

wherein one end of the first rotor receiving part near  
the first gap and an opposite end of the second rotor  
receiving part near the second gap are positioned on a  
vertical center line of the first and second stator cores  
and rotational shaft.

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30. (New) The motor of claim 29, further comprising:

a pair of separation members for electromagnetically  
separating a pair of shaft support parts, rotatably  
supporting the rotational shaft on both sides of the stator  
cores, from the stator cores, each separation member  
respectively being inserted between the stator cores and

one of the shaft support parts and receiving a part of the rotor protruded from the stator cores.

31. (New) The motor of claim 30, wherein a cover is formed on one of the separation members for covering the first and second gaps.

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32. (New) The motor of claim 29, wherein said first and second stator cores are symmetric with respect to an imaginary symmetry line passing through the rotational shaft, and wherein a sensor for sensing a rotational position of the rotor is positioned around 10-20° from the symmetry line nearer to the coil winding unit in a direction opposite to a rotational direction of the rotor.

33. (New) The motor of claim 29, further comprising:  
a PCB formed with a drive control circuit, and  
connected to the coil winding unit in a direction of the rotational shaft.

34. (New) The motor of claim 33, wherein the PCB includes an AC capacitor connected to utility power for

decreasing a voltage of the utility power, and a rectification circuit for rectifying the utility power.

35. (New) The motor of claim 29, wherein a pair of detent parts, having larger radius from the rotational shaft than radii of the first and second rotor receiving parts, are formed around each one end of the first and second rotor receiving parts in a rotational direction of the rotational shaft, and point symmetric centering on the rotational shaft.

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36. (New) The motor of claim 35, wherein the pair of detent parts are respectively formed around the other end of the first rotor receiving part and the other end of the second rotor receiving part.

37. (New) A skeleton type brushless motor comprising:  
a rotor having a rotational shaft in a center thereof;  
a first stator core having a first rotor receiving part formed therein for receiving the rotor;  
a second stator core having a second rotor receiving part formed therein for receiving the rotor;



first and second gaps formed between the first and second stator cores, respectively;

a coil winding unit connected to the first and second stator cores;

a coil wound on the coil winding unit;

a pair of shaft support parts rotatably supporting the rotational shaft on both sides of the stator cores; and

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a pair of separation members for electromagnetically separating the respective shaft support parts from respective ends of the stator cores, said separation members being inserted between the stator cores and respective ones of the shaft support parts and receiving a part of the rotor protruded from the stator cores.

38. (New) The motor of claim 37, wherein a cover is formed on one of the separation members for covering the first and second gaps.

39. (New) The motor of claim 37, wherein said first and second stator cores are symmetric with respect to an imaginary symmetry line passing through the rotational shaft, and a sensor for sensing a rotational position of the rotor is positioned around 10-20° from the symmetry

line, nearer to the coil winding unit in a direction opposite to a rotational direction of the rotor.

40. (New) The motor of claim 37, further comprising:  
a PCB formed with a drive control circuit, and  
connected to the coil winding unit.

41. (New) The motor of claim 40, wherein the PCB includes an AC capacitor for being connected to utility power, and a rectification circuit for rectifying the utility power.

42. (New) The motor of claim 40, further comprising:  
a PCB cover, connected with the PCB in a length direction of the rotational shaft for covering the PCB, wherein a sensor receiving part, for receiving the sensor, is formed in the PCB cover.

43. (New) The motor of claim 37, wherein a pair of detent parts, having a larger radius from the rotational shaft than radii of the first and second rotor receiving parts, are formed around one end of each of the first and second rotor receiving parts in a rotational direction of

the rotational shaft, and are point symmetric centering on the rotational shaft.

44. (New) A skeleton type brushless motor comprising:  
a rotor having a rotational shaft in a center thereof;  
and

a first stator core having a first rotor receiving part formed therein for receiving the rotor;

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a second stator core having a second rotor receiving part formed therein for receiving the rotor, said first and second stator cores being symmetric with respect to an imaginary symmetry line passing through the rotational shaft;

first and second gaps formed between the first and second stator cores, respectively;

a coil winding unit connected to the first and second stator cores;

a coil wound on the coil winding unit; and

a sensor for sensing a rotational position of the rotor, said sensor being positioned around 10-20° from the symmetry line nearer to the coil winding unit in an opposite rotational direction of the rotor.

45. (New) The motor of claim 44, wherein a pair of detent parts, having a larger radius than radii of the first and second rotor receiving parts from the rotational shaft, are formed around one end of each of the first and second rotor receiving parts in a rotational direction of the rotational shaft, and are point symmetric centering on the rotational shaft.

46. (New) The motor of claim 44, further comprising:  
a PCB formed with a drive control circuit, and  
connected to the coil winding unit.

47. (New) The motor of claim 46, wherein the PCB includes an AC capacitor for being connected to utility power, and a rectification circuit for rectifying the utility power.

48. (New) The motor of claim 46, further comprising:  
a PCB cover connected with the PCB in a length direction of the rotational shaft for covering the PCB, wherein a sensor receiving part, for receiving the sensor, is formed in the PCB cover.